

Installation and operating manual
- Englisch -

MobiSet 4 digital CAP 900



CARAVANING
DESIGN AWARD 2006/2007
INNOVATIONS FOR NEW MOBILITY

KATHREIN
Antennen • Electronic

CONTENTS

CONTENTS	2
FOREIGN LANGUAGE INSTALLATION MANUAL / DISPOSAL	3
MOBISET 4 CAP 900 COMPONENTS / SCOPE OF DELIVERY	4
PROPER USE	5
SAFETY INSTRUCTIONS - IMPORTANT NOTES	6
INSTALLATION AND CONNECTION	9
INSTALLATION OF CABLE GLAND AND MOUNTING PLATE.....	11
INSTALLATION OF TURNTABLE	13
INSTALLATION OF THE UFS 740SW RECEIVER	16
LAYING CABLES AND CONNECTING THE TURNTABLE	18
CONNECTING TO THE UFS 740SW	18
FUNCTIONAL INSTRUCTIONS FOR CONNECTION TO THE ON-BOARD POWER SUPPLY.....	19
CONNECTION EXAMPLE FOR 12 V BATTERY CONNECTION	20
RECEPTION RANGE / FOOTPRINT	21
DISMANTLING FOR SERVICING	22
DISMANTLING	22
ADDRESS OF THE SERVICE CENTRE	22
MANUAL LOWERING TO PARK POSITION	23
SAFETY INSTRUCTIONS.....	23
MANUAL LOWERING.....	24
TECHNICAL DATA	25
SIKAFLEX[®] -291 SAFETY DATA SHEET	26
SIKAFLEX[®] 291 TECHNICAL DATA SHEET	31
CAP 900 OPERATING MANUAL	33
IMPORTANT INFORMATION FOR CAP 900 BEFORE SETUP	34
REMOTE CONTROL	34
FIRST INSTALLATION	35
ALIGNMENT (SATELLITE SEARCH)	38
MANUAL CORRECTION	39
CHANNEL (SATELLITE) SELECTION	40
CHANNEL SELECTION FROM THE CHANNEL LIST	40
CHANGE OF LOCATION / TIMER PROGRAMMING	41
TIMER PROGRAMMING	41
RESET/PARKING	42
RESETTING THE MOTORISED ANTENNA	42
PARKING THE TURNTABLE	43
SPECIAL MESSAGES FROM THE TURNTABLE	44
SYSTEM PROTECTION MESSAGES	44
MESSAGES ARISING FROM SOFTWARE PROBLEMS	46
FURTHER MESSAGES	47
DECLARATION OF CONFORMITY	48

FOREIGN LANGUAGE INSTALLATION MANUAL / DISPOSAL

Dear Customer, Chère Cliente, Cher Client, Gentile cliente, Estimado cliente,

GB

You can obtain an English version of our installation instructions from our representatives in your country (http://www.kathrein.de/include/kontakte_groups_eng.cfm?kontinent=1&gruppe=SAT) or download one from our homepage (<http://www.kathrein.de/en/sat/products/englisch.htm>).

F

Vous pouvez obtenir un manuel d'installation en français chez notre représentant en votre pays (http://www.kathrein.de/include/kontakte_groups_eng.cfm?kontinent=1&gruppe=SAT) ou le télécharger de notre page d'ouverture (<http://www.kathrein.de/en/sat/products/franzoesisch.htm>).

I

Lei può avere la versione italiana delle istruzioni di montaggio dalla nostra rappresentanza (http://www.kathrein.de/include/kontakte_groups_eng.cfm?kontinent=1&gruppe=SAT) più vicina della sua città, oppure scaricarla dalla nostra homepage <http://www.kathrein.de/en/sat/products/italienisch.htm>

E

Para obtener la versión española de nuestro manual de instalación, contacte nuestros representantes en su país (http://www.kathrein.de/include/kontakte_groups_eng.cfm?kontinent=1&gruppe=SAT) o bajela de nuestra página de Internet (<http://www.kathrein.de/en/sat/products/spanisch.htm>).

DISPOSAL INSTRUCTIONS



Electronic equipment is not domestic waste - in accordance with directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL dated 27th January 2003 on used electrical and electronic appliances, it must be disposed of properly.

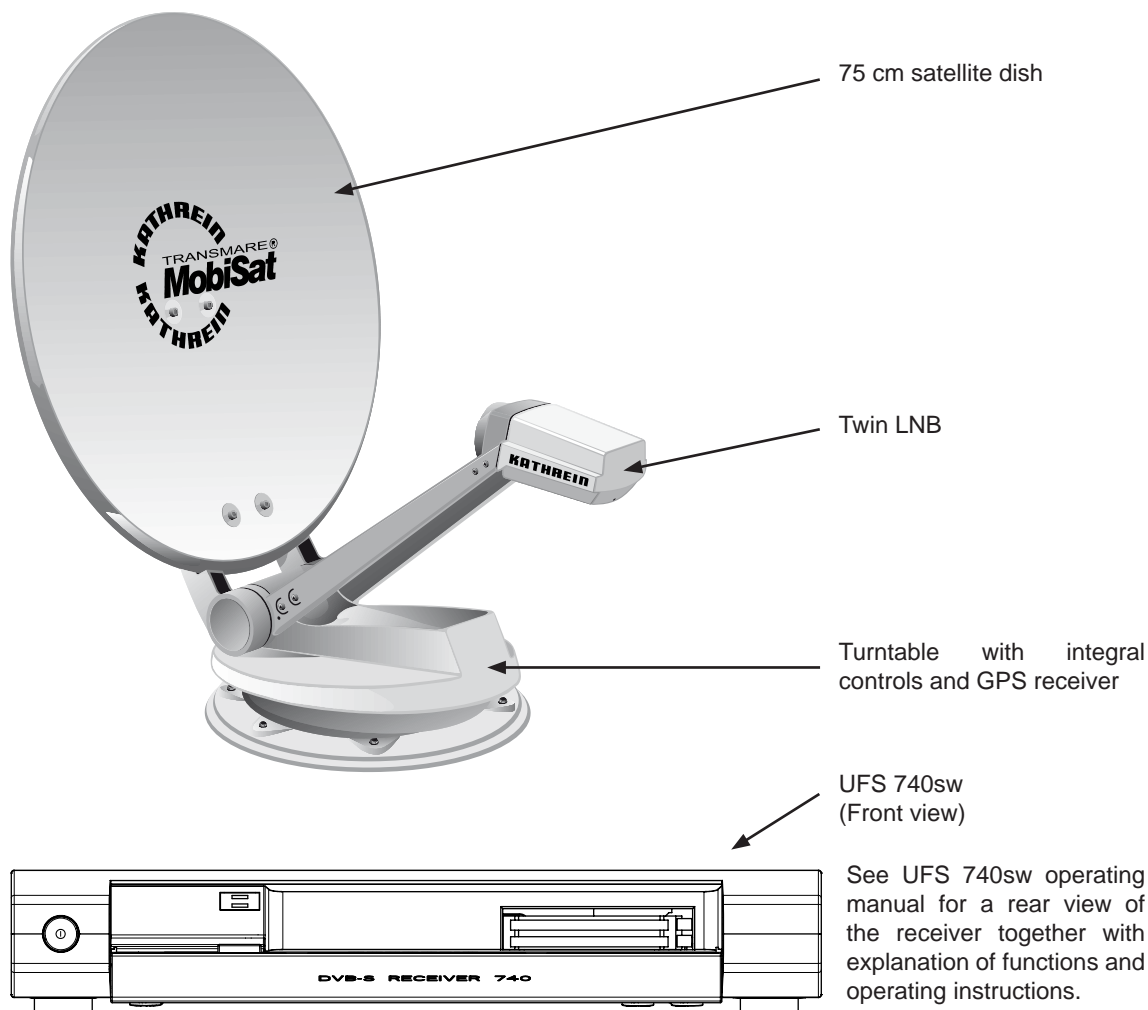
At the end of its service life, take this unit for disposal to an appropriate official collection point.



Used batteries are special waste!

Do not throw spent batteries into your domestic waste; take them to a collection point for old batteries!

MOBISET 4 CAP 900 COMPONENTS / SCOPE OF DELIVERY



PRODUCT PACKAGE

The MobiSet 4 digital CAP 900 consists of:

- Turntable complete with control electronics (and GPS receiver), pre-assembled satellite dish and twin LNB
- Mounting plate
- Complete cabling set: 2 x coax cables each 8 m long, and one power supply cable (10 m) for connection to the on-board power supply
- Roof gland with sealing gasket
- Sikaflex® 291 adhesive sealant (100 ml tube)
- UFS 740sw DVB-S receiver with connecting cables, infrared sensor and infrared remote control
- MobiSet 4 digital CAP 900 installation manual
- UFS 740sw satellite receiver operating manual

PROPER USE

PROPER USE (USE FOR THE INTENDED PURPOSE)

The MobiSet 4 digital CAP 900 is designed to receive digital TV and radio programs via satellite. The automatic positioner is intended to be used as a turntable for the Kathrein satellite dish.

The turntable can be used to receive digital TV and radio signals in the frequency range from 10.70 to 12.75 GHz; the antenna cannot receive terrestrial signals (e.g. DVB-T).

The turntable can only be used in conjunction with the UFS 740sw DVB-S receiver.

In conjunction with this receiver, the turntable provides fully automatic alignment of the satellite dish to receive digital satellite signals. The turntable is designed for use in stationary caravans or motor homes.

Any use other than that specified above will void the warranty or guarantee.

The following circumstances result in the loss of all warranty and liability claims towards the manufacturer:

- Improper installation
- Use of non-specified mounting materials, which cannot guarantee the mechanical reliability of the antenna system
- Impermissible use, e.g. use of the satellite dish for storage
- Structural changes or interference with the components and mounting accessories in the set, which could endanger both the mechanical and functional reliability
- Improper or forcible opening of the components
- Use of cleaners containing solvents, such as acetone, nitro-cellulose combination thinner, petrol etc.
- Failure to observe installation and safety instructions in this manual

Note: *The maximum permissible speed for vehicles with a CAP 900 receiver unit mounted on the roof is 130 km/h. Before commencing a journey, the satellite dish must always be lowered into horizontal position (park position).*



The turntable may be operated in an ambient temperature range of -20 °C to +45 °C. Operating the system outside this range may result in malfunctions or damage to the system. When choosing the location for installation or raising the UFS 740sw, ensure there is adequate ventilation.

The system may be installed only by qualified specialist personnel!

To prevent hazards during installation, operation or when driving on public highways, the instructions and information in this manual must be strictly adhered to. Proper installation and connection of the system are pre-requisites for conformity with the corresponding standards. This is documented in advance by the CE mark and the declaration of conformity in the appendix to this manual.

SAFETY INSTRUCTIONS - IMPORTANT NOTES

Safety during installation work



When carrying out installation work in locations where there is a risk of falling, take appropriate safety precautions, e.g. use of a working platform. Make sure that the vehicle roof is sufficiently strong and stable to carry out the installation work (risk of damage or collapse of roof).

In case of doubt, contact a qualified specialist dealer or the manufacturer of your vehicle to find an appropriate installation location.

Make sure that:

- The turntable and connected units are disconnected from the power supply
- The person carrying out the installation or repair does not suffer from vertigo and can move around safely on the roof of the caravan or motor home
- The person carrying out the repairs is wearing sturdy and non-slip shoes
- The person carrying out the repairs has a secure position to stand and hold on while working
- The roof and the climbing equipment used (e.g. ladder) are dry, clean and non-slip
- The roof can withstand the weight of the person carrying out the repairs

Attention! Risk of death or injury due to falling or the roof collapsing!

- Nobody should be inside the caravan/motor home underneath the antenna during dismantling/installation

Attention! Risk of death or injury due to possible roof collapse and falling parts!

Proper installation and safety

Fundamental information

A crucial safety factor is proper performance of installation and electrical connection work, and the specified alignment of the turntable in the direction of travel (park position), see also installation and connection.

Heed as precisely as possible the installation conditions and steps described.

Modifications to the electrical installations in the vehicle should only be carried out by a specialist in vehicle electrics. Do not make any unauthorised changes to the turntable.

Adhesive sealant

The turntable is attached to the roof of the vehicle by adhesive and is secured by additional screws.

Note that the curing of the adhesive sealant depends on the temperature. It reaches its final strength after approximately five days. During installation work, follow the processing and safety instructions listed in the Sikaflex® 291 data sheet.

SAFETY INSTRUCTIONS - IMPORTANT NOTES

Road Traffic Licensing Regulations (StVZO)

The applicable regulations of the StVZO must be observed in respect of fixed installation of the turntable on a vehicle which is driven on public highways.

In particular, this applies to §§ 19/2; 30 C; 32 (2) and the EC directive 74/483 EEC.

Briefly, they state that no endorsement of the vehicle documentation is required unless the antenna unit causes the height of the laden vehicle to exceed 2 m, or the antenna unit projects beyond the outer lateral outline of the vehicle. The maximum permissible height of 4 m (vehicle and antenna unit) may not be exceeded.



There is an increased risk of accidents if the normal vehicle height is increased by an extended antenna. The driver bears sole responsibility for the condition of the superstructure and external fittings!

Cables

Lay all cables such that nobody can tread on them or trip over them.

To prevent parasitic induction or interference emissions, when extending the antenna cable use 75 Ω coaxial cable with a screening factor of at least 75 dB.

If you tied the cables together with wire or similar materials, remove this to prevent the risk of fire!

Power supply, fusing

Operate the system from your vehicle's battery (12 V) or a suitable mains power supply unit. This mains power supply unit must ensure a stable output voltage of 12 V, continuous current of 11 A and 15 A (300 ms) surge current.

The transient current consumption is up to a maximum of 12 A.

To ensure reliable functioning of the connection/control unit, the power supply cable must be connected directly to the battery. If the supply voltage is too low, the UFS 740sw receiver indicates this with the on-screen message "On-board voltage too low" on the television screen.

A 15 A fuse is incorporated in the power supply cable. If the fuse blows, rectify the source of the fault and replace the blown fuse with a fuse of the same rated value (15 A).



Never remove or bypass the fuse in the cable – cable fire hazard!

Connecting the power supply cable wire marked "Ignition" to the ignition circuit activates the turntable function for automatic lowering of the antenna. This lowering takes place as soon as the vehicle ignition circuit is turned on. When connecting the control unit to the on-board power supply, it must be ensured that the "+12V", "Earth" and "Ignition" wires cannot be interrupted by intermediate switches, as this could deactivate the automatic lowering function.



The antenna is lowered within 12 seconds of the ignition being switched on (if it is in stand-by mode and if the UFS 740sw is switched off). Otherwise the control unit that is in use is lowered immediately.

Important: Lowering the antenna can take up to 30 seconds after the ignition is switched on)!

SAFETY INSTRUCTIONS - IMPORTANT NOTES

Checks before commencing a journey

- Before commencing a journey, the antenna must always be lowered into horizontal position (park position). If the antenna collides with a fixed or moving object, you must check that it is still securely attached.
- As the antenna is subjected to vibration loads during driving, you should check at regular intervals, depending on the frequency of driving, that the system is still securely attached and tighten any parts that have worked loose.
- The maximum permissible speed for vehicles with a receiver unit mounted on the roof is 130 km/h.
- Lower the antenna if it will not be used for a long period. This makes the securing bolts more difficult to access (protection against theft).

Safety precautions during installation

During installation of the turntable, make sure that no persons, in particular children, are in the immediate vicinity of the turntable and that they cannot touch any moving parts – danger of crushing!

Always unplug the power supply during installation work.

Antenna in the park position whilst driving

The antenna must always be lowered into horizontal position (park position) while driving.

As a reminder, please attach the sticker from the supplementary sheet “Lower the CAP 900 antenna while driving” where it can easily be seen by the person operating the ignition switch.



Safety precautions during operation

During operation of the turntable, make sure that no persons, in particular children, are in the immediate vicinity of the turntable and that they cannot touch any moving parts - crush hazard!

Always unplug the power supply during installation work.



Exceeding the normal vehicle height by failing to lower the antenna increases the risk of accidents! The driver is responsible for the condition of the superstructure and external fittings!



In addition the instructions in the installation and operating manuals for these devices and for the attachments and superstructures must be complied with at all times!



If stormy weather is expected, the turntable must always be moved to the park position, otherwise both the CAP 900 and the vehicle may be damaged.

INSTALLATION AND CONNECTION

REQUIRED TOOLS AND EQUIPMENT

- Circular cutter, Ø 38 mm
- Flat-bladed screwdriver for M5 screws
- Drilling machine
- Galvanised raised head screws, depending on roof structure (Ø: 5 mm, sheet metal screws D 7981, depending on roof panel structure) or raised head screws D 7985 with shims and nuts
- Twist drill, Ø 2.5 or 5.5 mm
- Round file and/or emery paper
- Cleaning agent
- Open-ended or ring spanners 10 and 11 mm across flats
- Knife
- Cross-head screwdriver for M3 and M5 screws
- Torque wrench between 6 and 11 Nm
- Hexagon socket key (5 mm)
- Two wooden beams for supporting the turntable

UNPACKING AND PREPARATION

Keep the device in its cardboard box for transport on to the vehicle roof. Only take the turntable out of its packaging when it is on the vehicle roof. Retain the original packaging, as if it is necessary to send the unit for repair transport damage cannot be ruled out and the manufacturer accepts no liability for possible damage.

Loosen the six fastening screws (width: 10 mm). Carefully lift the turntable off the mounting plate and place it on the prepared support beams. Make sure that the cables are not crushed where they emerge from the underside of the turntable.

SELECTING THE INSTALLATION LOCATION

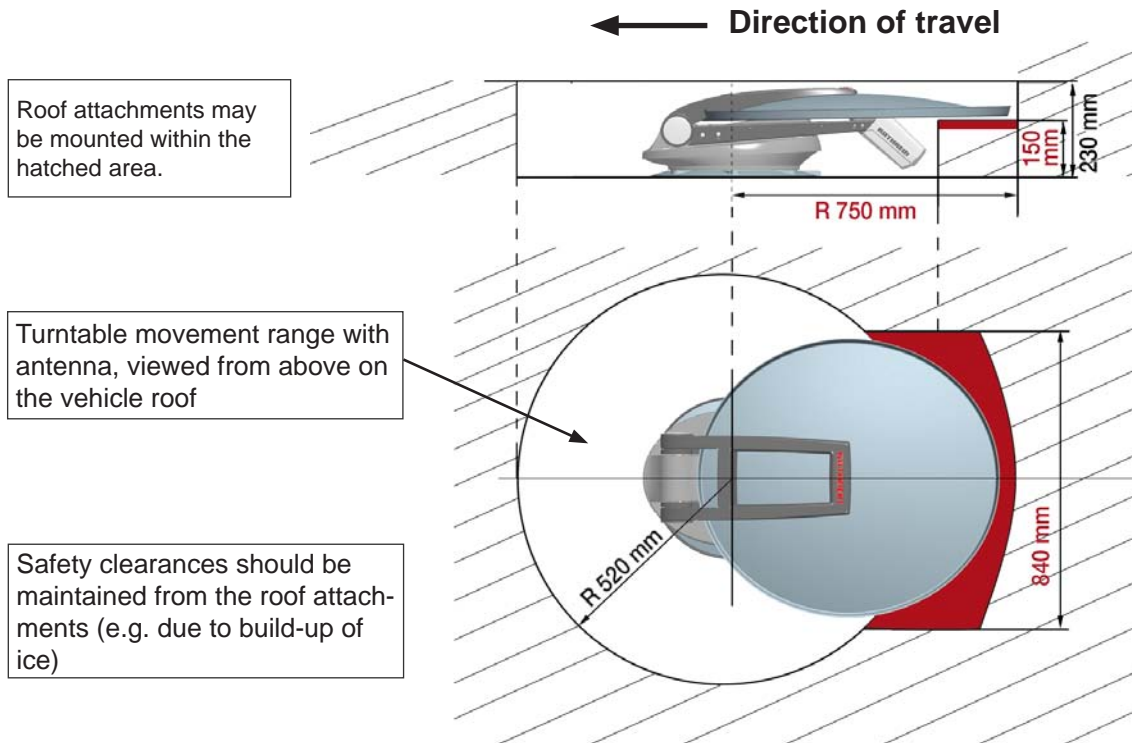
Essentially, the cable lengths of the MobiSet 4 CAP 900 components allow you a free choice of installation location on your caravan or motor home.

However, you should take note of the following points:

- Before installation, you should find out whether the operating manual for your vehicle permits the fitting of non-vehicle-specific parts or what requirements need to be met in order to do so.
- For direct satellite reception, there should not be any obstructions between the antenna and the satellite. Therefore, make sure that the antenna is not shadowed by roof extensions such as luggage racks, air conditioning units, solar panels, etc. The problem of shadowing applies also to the selection of the parking place for your vehicle. For interference-free satellite reception, the antenna needs a projected free view to the South at an angle of between 15° and 55° (depending on location) to the horizontal.

INSTALLATION AND CONNECTION

- When selecting the installation position, take into account the range of movement of the turntable (see the grey shaded area in the graphics). Within this grey area there must be no structures on the roof that would obstruct this movement (risk of collision). For safety, keep at least the required area of 1024 x 1250 mm free (for ease of installation and any subsequent dismantling).



- Choose a mounting position on the roof that is as flat as possible, depending on the location of the vehicle, since roof inclinations greater than 5° may lead to problems when searching for the satellite.
- To ensure secure adhesion, the height difference of the roof curve may not be more than 1 cm over a length of 2 m, as otherwise the gap between the roof and the mounting plate would be too great to be filled by the adhesive sealant.
- As the vehicle is constantly subjected to vibration loads during travel, the roof below the antenna unit is also subject to significant loads. Please note given the nature and capacity of your vehicle roof (see also operating manual for the vehicle) that the weight of the antenna unit is approx. 19 kg. In case of doubt, consult a qualified dealer or your vehicle's manufacturer.
- The roof gland provides a watertight seal through which the three connecting cables (2 x coax cables, one x power supply cable) are fed into the interior of the vehicle directly underneath the turntable. If you prefer a different method of laying the cables, they can be run from the rear of the turntable via the channel provided in the mounting plate. The cables must then be run along the roof of the vehicle in a protective cable duct (not supplied). For the roof duct, use the HDZ 100 (Order no. 20410032) housing available from specialist dealers as an accessory.

Note: Do not cut the cables, as otherwise the proper functioning of the unit can no longer be guaranteed.

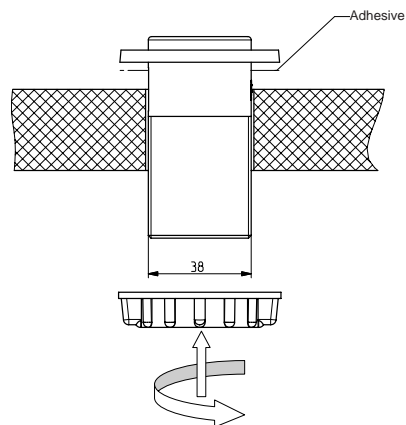
INSTALLATION AND CONNECTION

INSTALLATION STEPS

INSTALLATION OF CABLE GLAND AND MOUNTING PLATE

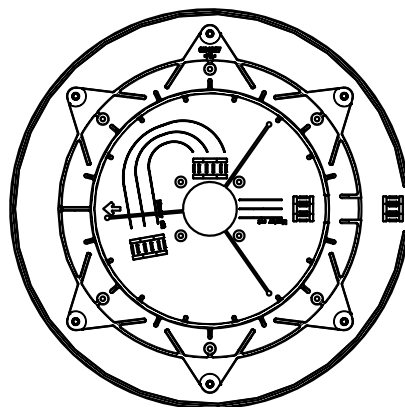
Note: If you have previously used a Kathrein HDM140/141 flexible satellite mast or another mast with a diameter of 34 mm, you can continue using the existing gland hole in the roof (if space allows).

Figure: A



- In the centre of the intended position of the turntable, drill the opening for the cable gland with a circular cutter (\varnothing : 38 mm). Deburr the hole with a round file or emery paper.
- Provisionally insert the roof gland into the drilled hole (Fig. A).
- Place the mounting plate on the roof of the vehicle, such that the centre hole is positioned centrally to the cable gland. The **arrow symbol** must be visible from above and point **forwards in the direction of travel** (Fig. B).

Figure: B



- Mark the positions of the ten fastening holes on the roof of the vehicle in a pitch circle.

Note: *The size of the holes and the choice of fastening screws to be used (not supplied) depend on the type and thickness of the materials used in the roof structure. If the roof panelling (plastic roofs) is sufficiently strong, it is recommended that raised head screws, plain washers and self-locking nuts are always used to secure the glued mounting plate.*

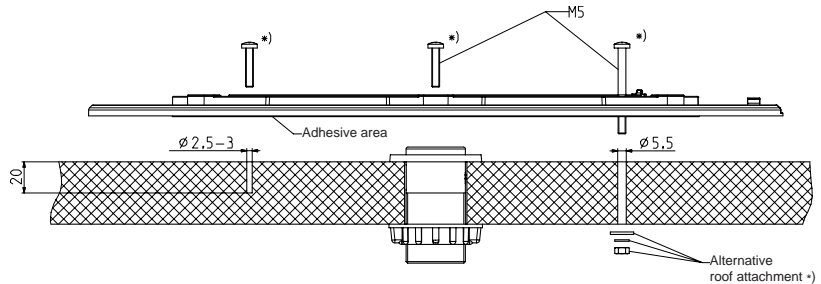
INSTALLATION AND CONNECTION

- For very thin roof panel materials and insufficient purchase in the insulating material, through holes (\varnothing : 5.5 mm) into the interior of the vehicle are necessary; galvanised M5 raised head screws of sufficient length should then be used.

Make sure that you use a sufficiently strong support that can accept the screw tensile forces (large plain washers or a complete reinforcing plate).

Figure: C

*) (not included)



- Create the holes necessary to secure the mounting plate (Fig. C).
- In addition to the screwed connection, the mounting plate and roof gland must be bonded to the roof with adhesive and sealed. This is done using the Sikaflex® 291 adhesive sealant supplied, which is ideally suited for this purpose due to its broad range of adhesion.

Before you begin working with Sikaflex® 291 sealing compound, make sure that you have carefully read the safety information for Sikaflex® products on the data sheet and the technical code of practice in this installation manual!

The prerequisite for good adhesive characteristics is a clean, dry and grease-free substrate. You should therefore clean the roof surface with a suitable cleaning agent within a circumference of 17 cm around the drilled hole and allow the surface to dry thoroughly.

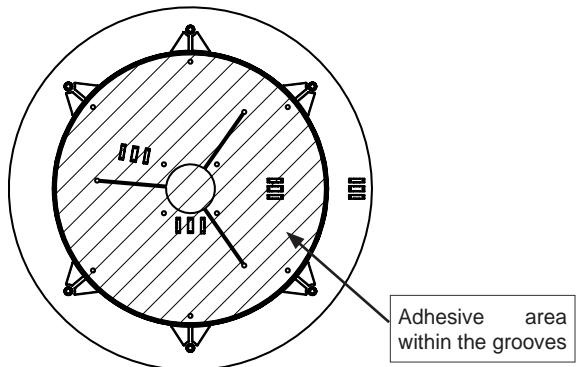
For painted surfaces, ensure that the paint finish is sufficiently well bonded to the substrate.

If the coat of paint is already loose or flaky, it must be removed down to a stable layer in the area of the adhesive application. If you have any doubts concerning the adhesive characteristics, consult a paint and lacquer specialist, or the manufacturer of your vehicle.

Under certain circumstances, it may be necessary for you to improve the adhesive characteristics of the roof surface by pre-treatment with a cleaning agent available from specialist dealers (e.g. Sika® Cleaner) or a primer (e.g. Sika® Primer).

The procedure for gluing the mounting plate is as follows:

Figure: D



INSTALLATION AND CONNECTION

- Before starting adhesive work, note that the optimum processing temperature of materials to be glued and the adhesive sealant is between +15 °C und +25 °C. Prepare all necessary fastening elements and tools.
- Prepare the tube of adhesive sealant in accordance with the instructions enclosed with the tube.
- Remove the roof gland (Fig. A) and apply the adhesive sealant evenly to the underside of the roof gland flange.

Replace the roof gland in the drilled hole and press it firmly against the roof of the vehicle.

- Apply the adhesive sealant evenly to the underside of the mounting plate, completely covering the area within the circular groove (Fig. D).

This area of the vehicle roof must be completely coated with adhesive in order to achieve the necessary bonding force.

Place the mounting plate on the roof of the vehicle, as you did previously when marking out the drilled holes.

Make sure that the arrow on the mounting plate points forward in the direction of travel.

The fastening holes must be perfectly aligned with the prepared holes in the roof.

- Fasten the mounting plate in place with the prepared screws, evenly tightening all ten screws across the diagonals.

Note: *The adhesive sealant used is capable of bridging small gaps arising from the curve of the vehicle's roof. However, you should ensure that the mounting plate is not bent by tightening the screws.*

- Remove any adhesive sealant that leaks out at the sides with a clean cloth or if necessary with Sikaflex® Remover (available from specialist dealers). Do not use a cleaning agent or thinner containing solvents, as this could damage the adhesive sealant applied under the mounting plate. Use only hand cleaning paste and water to clean your hands.
- Secure the cable gland from inside the vehicle by tightening the knurled nut supplied (Fig. A).
- Note that the curing of the adhesive sealant depends on the ambient temperature and the humidity. Final strength is reached after approx. five days. However, this need not restrict further installation work, since the mounting plate is held in place by the tightened screws.

INSTALLATION OF TURNTABLE

VARIANT WITH CABLE GLAND UNDERNEATH THE TURNTABLE

- Lay the cables supplied with the turntable (2 x coax cables and 1 x power supply cable) into the mounting plate as indicated by the markings on the mounting plate (see Fig. E1), and feed the remaining lengths of cable through the roof gland into the interior of the motor home/caravan.

INSTALLATION AND CONNECTION



Figure: E1

Master coaxial cable
(marked red)

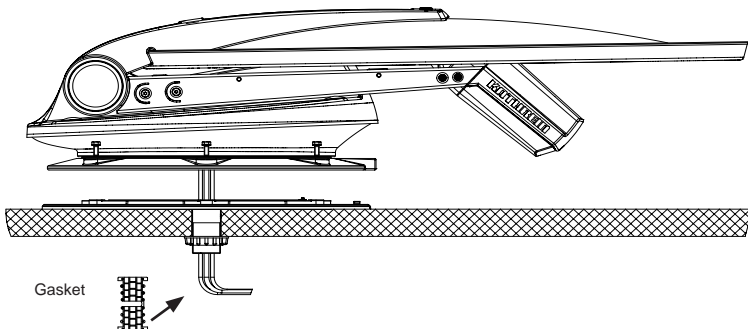


Figure: E2

- Lift up the turntable and place it carefully on the mounting plate facing in the direction of travel (see illustrations Fig. E) (do not step on the plug connector and do not kink/crush the cables!)

The through holes on the turntable must be perfectly aligned with the threaded holes on the mounting plate.

- Allow the turntable to rest on the front edge of the mounting plate. Keep the turntable supported at an angle (see Fig. E1) and insert a suitable piece of wood underneath it.
- Now lay and connect the turntable cables in the mounting plate (as indicated on the mounting plate, see Fig. E1). Take particular care that the two master coaxial cables, marked red, are connected to each other. Initially tighten the coaxial cable connections finger-tight, using no tools, then tighten them lightly using an open-ended 11 AF spanner.
- Now lower the turntable back on to the mounting plate, taking care whilst so doing that the cables are fed through the cable gland and are not snagged.
- Apply a little adhesive sealant to the six threaded holes in the mounting plate and screw the fastening screws into the thread. Tighten the screws to a torque of 6 Nm.

INSTALLATION AND CONNECTION

- To prevent water vapour from inside the vehicle reaching the turntable through the roof gland, thread the three cables through the sealing gasket supplied (see Fig. E2) and insert this into the roof gland until it reaches the stop. Make sure that no tensile load is acting downwards on the sealing gasket as this can cause it to fall out in the course of time.

VERSION WITH EXTERNAL CABLE DUCT (FIG. F)



Figure: F1

Master coaxial cable
(marked red)

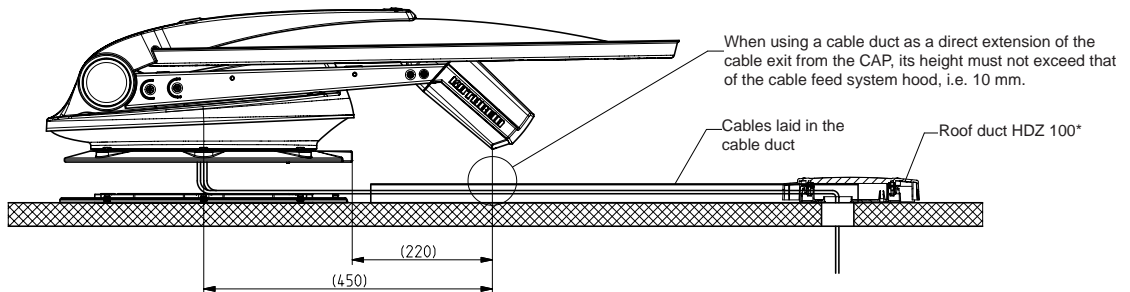


Figure: F2

*) (not included)

- Lay the cables supplied with the turntable (2 x coax cables and 1 x power supply cable) into the mounting plate as indicated by the markings on the mounting plate (see illustrations Fig. F), and feed the remaining lengths of cable through a cable duct¹⁾ and a cable gland¹⁾ into the interior of the motor home/caravan.
- Lift up the turntable and place it carefully on the mounting plate facing in the direction of travel (see illustration Fig. F2) (do not step on the plug connectors and do not kink/crush the cables!)

The through holes on the turntable must be perfectly aligned with the threaded holes on the mounting plate.

- Allow the turntable to rest on the front edge of the mounting plate. Keep the turntable supported at an angle (see Fig. F1) and insert a suitable piece of wood underneath it.
- Now lay and connect the turntable cables on the mounting plate (as indicated on the mounting plate, see also Fig. F1). Make sure that the cables are not crossed over and that they are tightened so that they cannot be kinked. The two master coaxial cables, marked red, must be connected to each other. Initially tighten the coaxial cable plugs finger-tight, using no tools, then tighten them lightly using an open-ended

INSTALLATION AND CONNECTION

11 AF spanner. Do not try to pull the cables from the unit. This could damage the cables or loosen the cable connections.

- Apply a little adhesive sealant to the six threaded holes in the mounting plate and screw the fastening screws into the thread.

Tighten the screws to a torque of 6 Nm.

- The connecting cables should be fed into the interior of the vehicle through a waterproof cable duct¹⁾. The cables may not be crushed, kinked or damaged.



The connecting cables between the turntable and the connecting/control unit may not be extended!

- 1) These watertight cable glands are used in boating and yachting applications under the name “cable ports”; they can be purchased from boating and yachting chandlers.

INSTALLATION OF THE UFS 740SW RECEIVER

The turntable is controlled by the UFS 740sw DVB-S receiver.

The cable lengths must be taken into account when choosing the installation location. For suspended installation use the mounting kit supplied with the receiver.

Note: *When choosing the installation location, bear in mind that the on/off switch and the slots for inserting common interface modules should always be accessible. The UFS 740sw is equipped with a power saving circuit and a separate infrared transmitter, which means that the unit does not need to be placed where it is visible. You can therefore fit the UFS 740sw out of sight in any location, e.g. on cupboard walls, side walls or the base of storage compartments.*

In addition, the following points should be taken into account:

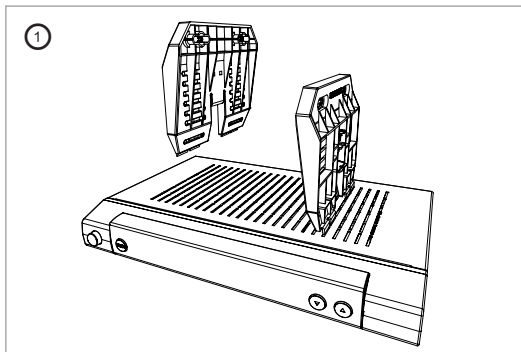
- The wall thickness at the installation location must be at least 12 mm, as otherwise the screws will break through on the other side or damage the surface
- The receiver must be placed in such a way as to allow sufficient air circulation behind, above and next to the unit (installation using the mounting kit ensures this). Installation on carpeted walls is therefore unsuitable
- Ensure that the cupboard or storage compartment in which the unit is housed is adequately ventilated, to prevent a build up of heat
- Take care when tightening the screws not to damage any cables etc. behind or in the wall
- The receiver is designed for installation in exclusively dry, interior locations. The installation location must be protected against moisture
- The connecting cables must be strain relieved



The receiver must be connected to no other power supply than 12 V DC. The receiver's earth connection must be connected to the negative pole of the motor home or caravan battery.

INSTALLATION AND CONNECTION

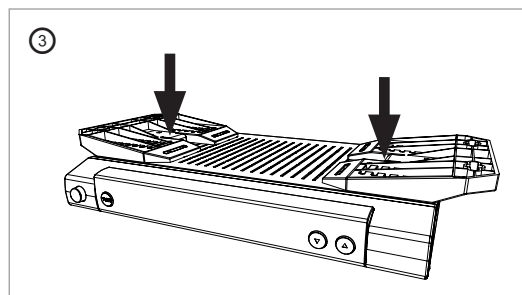
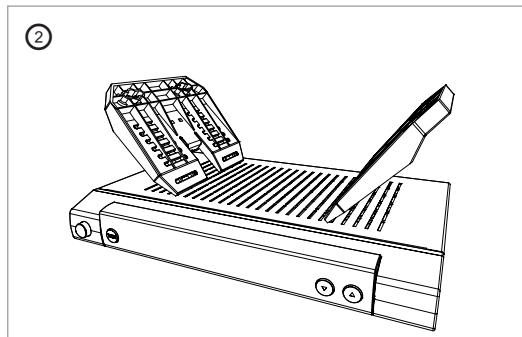
SUSPENDED INSTALLATION



Remove the wood screws supplied from their transport attachment on the underside of the respective mounting piece (2 pieces).

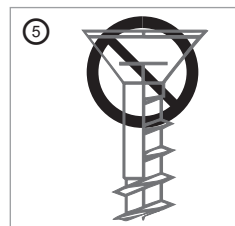
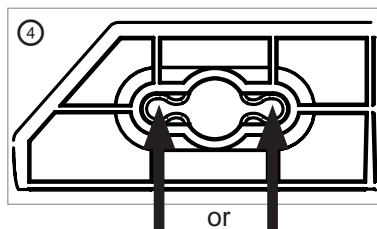
Vertically insert each mounting piece into the fifth slot from the edge, as shown in Fig. 1.

Then push each mounting piece downwards and outwards (see Fig. 2) until they lie flat on the receiver casing (see Fig. 3).



Now press the mounting pieces firmly against the receiver casing at the points shown arrowed in Fig. 3), until the catch audibly snaps home in the receiver casing.

Now hold the receiver, with the mounting kit attached, at the installation location. Screw in the wood screws supplied, through the smaller positions in the screw attachment area (4 x) (see Fig. 4). Wherever possible, use the wood screws supplied. If these are unsuitable, other screws of adequate size and strength can be used. **Under no circumstances however use countersunk wood screws, since these can damage the attachment area (see Fig. 5).**



Then screw all four screws fully home, so that the mounting kit is no longer able to work loose.

INSTALLATION ON A FIXED FLAT SURFACE

So as to prevent the receiver slipping or falling, the mounting kit can also be attached to the underside of the receiver. Assembly is the same as for suspended installation, except that the mounting kit is hooked into the underside of the receiver.

INSTALLATION AND CONNECTION

LAYING CABLES AND CONNECTING THE TURNTABLE

- Lay the master coaxial cable (marked red) to the UFS 740sw and the second coaxial cable to the second receiver. If you are not using a second receiver, we recommend that you lay the second coaxial cable in any case, so that it is available should you ever need it.
- Lay the turntable power supply cable (3-pin plug) to the battery.

Avoid laying the cables across sharp edges and secure the cable against possible chafing points.

- Connect the master coaxial cable (coming from the turntable) to the "IF IN" F socket on the rear of the UFS 740sw.
- Place the infrared sensor for the receiver close to or directly on top of the TV set and lay the cable to the UFS 740sw. Connect the 6-pin Western connector at the rear to the socket marked "IR REMOTE IN".

Note: *Lay the AV cinch supplied with the CAP 900 to the Scart cable. Take great care to plug the cables into the correct sockets! The cinch connector must be assigned to the UFS 740sw and the Scart connector to the TV set.
Reversal is not possible - unit will not function!*

CONNECTING TO THE UFS 740SW

Isolate the on-board power supply (master switch "off" or disconnect negative pole of on-board power supply battery) before commencing the following work:

- Connect the power cable supplied (depending on the power supply available in your motor home or caravan, either a 12 V supply or a 230 V supply via a power supply unit) to the "**12V = /2,5A**" socket on the receiver.

Make sure that the "inline" integrated fuse (15 A) of the cable is fully plugged in and is intact. If the fuse blows, the source of the fault must first be eliminated. The fuse must only ever be replaced by a fuse with the same rated value (15 A).



The fuses in the cable and in the receiver may never be bridged – cable fire hazard!

- At the connecting point for the power cable, the voltage must not fall below 10.9 V even with a load of 12 A. Otherwise optimum functioning can no longer be guaranteed.
- Connect the power cable to the respective socket in your motor home or caravan (12 V or 230 V).

INSTALLATION AND CONNECTION

Only for connection in a motor home, not in a caravan!

- The third, green connecting cable, marked "IGNITION" allows you the option of connection to a circuit in the vehicle that is activated when the ignition key is turned and then carries a continuous 12 V supply. This type of connection ensures that when the engine is started the antenna is automatically lowered into the park position (the receiver does not need to be turned on).
- Check the connections before you re-connect the on-board power supply.
- For commissioning and more detailed information on additional operator functions, we refer you to the separate operating manual enclosed.

FUNCTIONAL INSTRUCTIONS FOR CONNECTION TO THE ON-BOARD POWER SUPPLY

Under certain circumstances, problems can arise when the units are connected to different connecting sockets or circuits/earth potentials. If none are available, it is recommended as depicted in Figure "H" that you connect the connecting sockets for receiver and TV set to the same cable. The current capacity of the circuit used must be checked with respect to the intended application.

Further information on operating the UFS 740sw receiver can be found in the operating manual supplied with the unit.

INSTALLATION AND CONNECTION

CONNECTION EXAMPLE FOR 12 V BATTERY CONNECTION

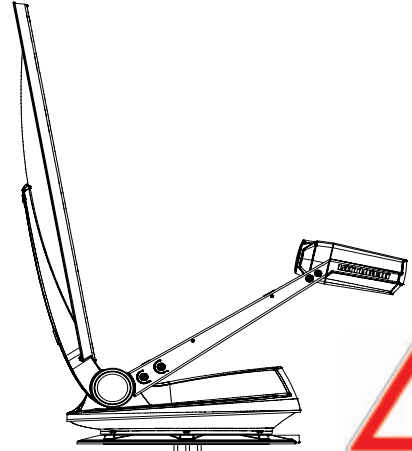
Figure: G



Important:

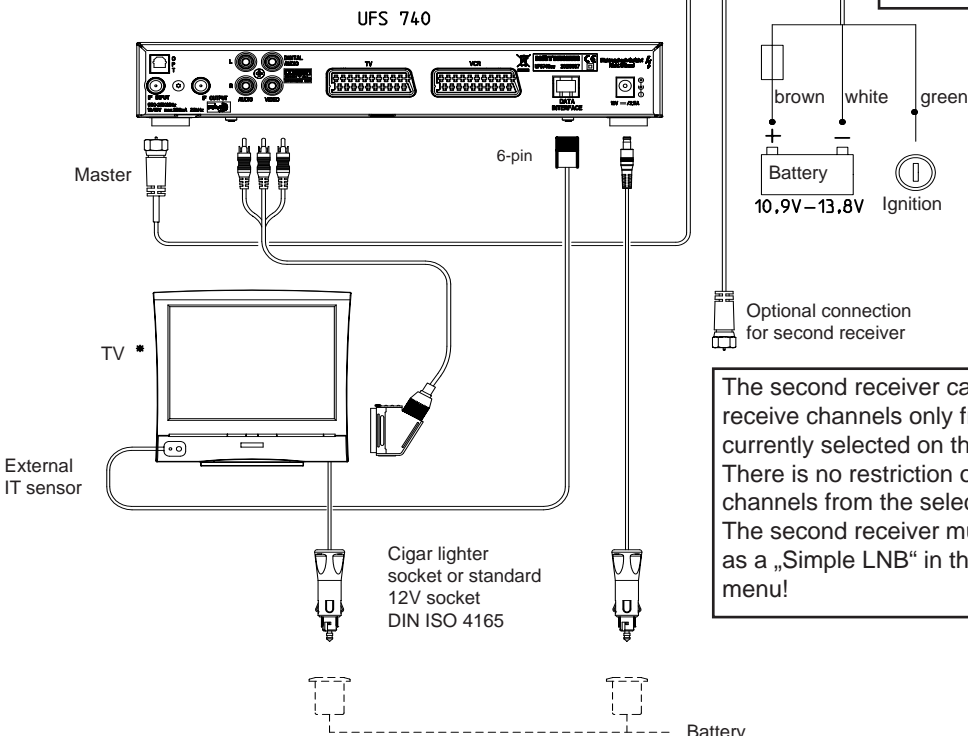
For operation with two batteries, it must be ensured that the ignition signal earth has the same potential as the power supply battery earth for the turntable.

Non-compliance means that the automatic lowering function will not work!



Important:

A connection is necessary, otherwise the GPS data cannot be read!



The second receiver can be used to receive channels only from the satellite currently selected on the first receiver. There is no restriction on choice of channels from the selected satellite. The second receiver must be configured as a „Simple LNB“ in the first installation menu!

*) not included

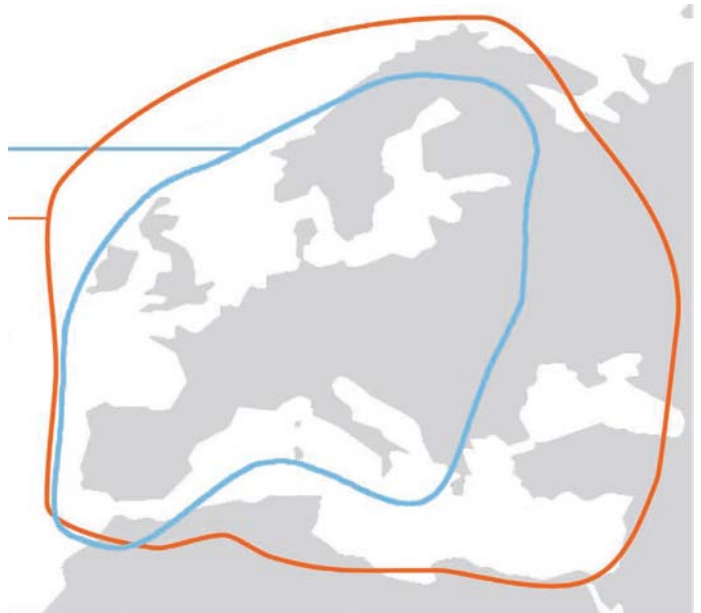
RECEPTION RANGE / FOOTPRINT

The footprint is the reception area on the earth that a satellite covers with its transmission beam (spot), within which satellite reception is possible. The transmission power is at its greatest in the centre of this spot – it becomes progressively weaker moving outwards.

You should preferably align your antenna to the position of the ASTRA satellite 19.2° East, EUTELSAT/ HOTBIRD 13° East (picture below right). The spots for these satellites are shown below.

The inner line of the footprint here shows the typical reception range for ASTRA with the CAP 900

The outer line of the footprint here shows the typical reception range for EUTELSAT Hotbird with the CAP 900



The satellites broadcast the various channel packages in different footprints.

Within these, the respective channel packages can be received with good video and audio quality. In the marginal zones reception is possible, although the quality of the signals received can vary considerably.

DISMANTLING FOR SERVICING

If repairs to the system or individual components are necessary, contact your specialist dealer or our service centre (see below for address).



Never open the turntable yourself!

DISMANTLING



- **The cables may not be cut! Disconnect the cables at the cable disconnection box provided for the purpose**

- Cables laid within the vehicle can remain there
- Unscrew the six M6 screws securing the turntable to the mounting plate
- Lift the turntable at an angle and insert a suitable piece of wood underneath it
- Disconnect the cables at the cable disconnection box provided for the purpose (undo the plugs)
- Then place the turntable on the prepared support beams
- To ship the turntable, use the original packaging which you have saved
- Seal the opening in the vehicle roof appropriately to protect against penetrating moisture

Note: *Before exchanging the UFS 740sw, first move the turntable to the park position.*

ADDRESS OF THE SERVICE CENTRE

ESC
Electronic Service Chiemgau GmbH
Bahnhofstraße 108
83224 Grassau, Germany

Phone: +49 8641 9545-0
Fax: +49 8641 9545-35 and -36
Internet: <http://www.esc-kathrein.de>
e-mail: service@esc-kathrein.de

MANUAL LOWERING TO PARK POSITION

If a defect arises in the electronic controls, after some disassembly work the satellite dish can be returned to the park position (horizontal position) manually. Following this however recalibration by an authorised workshop is always necessary.

Driving to the nearest workshop with the antenna extended at a moderate speed and taking into account the increase (+ 77cm) in the vehicle height is an option and is preferable to manual lowering!



Users unfamiliar with the necessary repair work are urged not to attempt to lower the antenna manually into park position themselves. They should contact a technician or engineer. They may find a suitable person on the campsite.

In any case, the safety instructions listed below must be followed.

SAFETY INSTRUCTIONS



Make sure that:

- The antenna and connected units are disconnected from the power
- The person carrying out the repair does not suffer from vertigo and can move around safely on the roof of the caravan or motor home
- The person carrying out the repairs is wearing sturdy and non-slip shoes
- The person carrying out the repairs has a secure position to stand and hold on while working



- The roof and the climbing equipment used (e.g. ladder) are dry, clean and non-slip
- The roof can withstand the weight of the person carrying out the repairs

Attention! Risk of death or injury due to falling or roof collapse!



- Do not hold onto the antenna, as the rocker comes free without warning during dismantling

Attention! Risk of death and injury due to falling or crushing!

- Nobody should be inside the caravan/motor home underneath the antenna during dismantling/installation

Attention! Risk of death or injury due to possible roof collapse and falling parts!

MANUAL LOWERING TO PARK POSITION

MANUAL LOWERING



1. In the centre of the axis (arrowed) there are two plastic caps, one to the left and one to the right. Lever them off with a narrow slot-head screwdriver.
2. Behind this, each jointed socket carries a central M10 socket-head screw (8 mm across flats); and one of the two sockets carries an additional 2 M6 socket-head screws (5 mm across flats). Unscrew each of these four screws.
3. Attention! Secure and support the antenna to prevent it from tipping over. The connection to the rocker can suddenly come loose during the next step (item 4). It is then no longer connected to the turntable!
4. Screw an M12 screw into each thread (minimum length: 60 mm). Screwing in the M12 screw pushes the rocker off the taper seating on the tapered shaft and releases the engagement.

Attention: Screw the screw in only as far as necessary just to free the rocker from engagement on the tapered shaft!

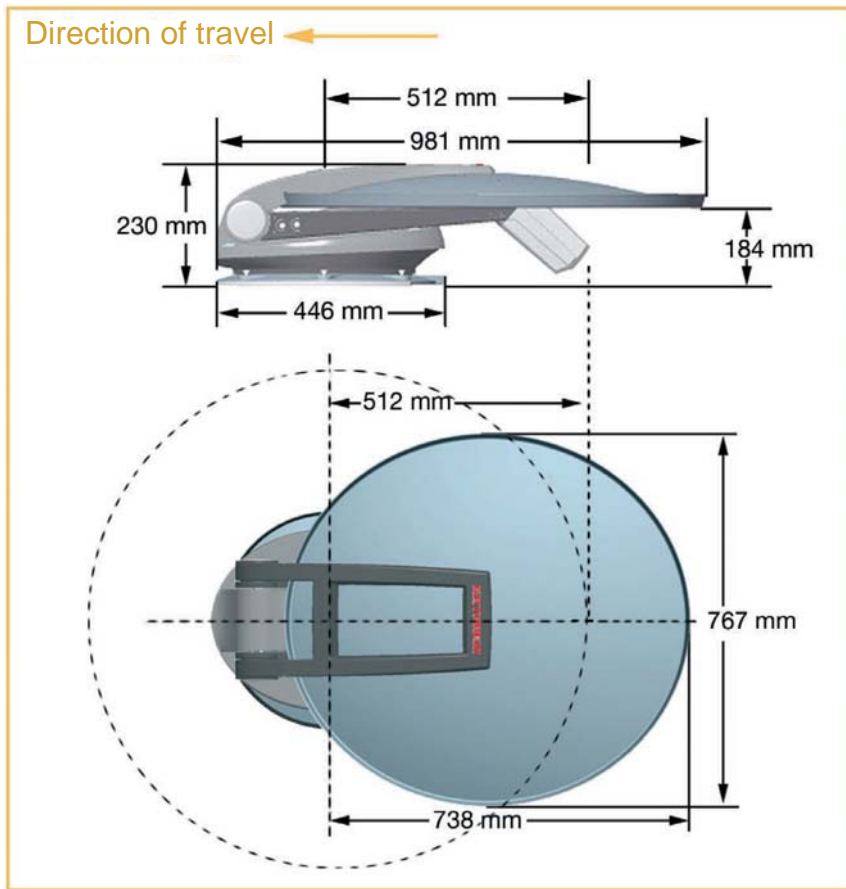
5. Tilt the antenna into the park position (horizontal position).
6. Screw the M12 screw back out again.
7. Screw the M10 screws on each side back in again, and also the two M6 screws on the one side, and tighten them.
8. Replace the plastic caps.

Loosening the rocker from the taper shaft causes the rocker zero point position to be lost. When the authorised dealer rectifies the defect he will recalibrate the rocker!

9. Consult an authorised dealer.



TECHNICAL DATA



Type		CAP 900
Order no.		20310012
LNB		2 outputs switchable: V/H (14/18 V), low/high (0/22 kHz)
LNB supply voltage	V	vert.: 11.5-14, horiz.: 16-19
Input frequency	GHz	10.70-12.75
Output frequency	MHz	950-1950/1100-2150
Oscillator frequency (L.O.)	GHz	9.75/10.60
System quality (G/T) 11.3/12.5 GHz	dB/K	16.9/17.9
Supply voltage (vehicle battery)	V	10.9-13.8
Power consumption from the 12 V vehicle electrical system: Inrush current/satellite search/TV-reception/stand-by	A	type 10, max. 12/type 3/type 1.2/type 0.024
Current consumption from the receiver	mA	type 200
Setting range elevation/azimuth/skew	°	3-67/390/± 45
Weight (without receiver)	kg	18.9
Packing unit/weight	pc./kg	1/22

SIKAFLEX[®]-291 SAFETY DATA SHEET

1. Materials/preparation and company designation

Data on the product (trade name): Sikaflex[®]-291
 Data on manufacturer/suppliers
 Manufacturer/suppliers: Sika Deutschland GmbH
 Street/postcode: Kornwestheimer Str. 103-107
 Postcode and town: 70439 Stuttgart
 Country: Germany
 Phone: +4971180090 Fax: +497118009321
 General information: Product safety
 Emergency information hotline: +49-(0)173-6774799 only outside office hours

2. Composition/data on components

Chemical characterisation: Filled reactive PUR polymer
 Hazardous contents (designation to 67/548/EEC)

CAS no.	Concentration	Danger symbols	Risk phrases	EC no.
Naphtha (crude oil), hydro-desulphurised heavy 64742-82-1	1 - 2.5 %	Xn,N	10,65,51/53,66,67	265-185-4
4.4' methylene-diphenyl-diisocyanate 101-68-8	0.1 - 1 %	Xn	20,36/37/38,42/43	202-966-0
Xylol 1330-20-7	1 - 2.5 %	Xn	10,20/21,38	215-535-7

3. Potential hazards

Hazard designation:
 Xn Hazardous to health
 Special hazard instructions for human beings and the environment
 42 Sensitisation possible by breathing in.

4. First Aid measures

General instructions
 In all cases show the doctor the safety data sheet.
 After breathing in
 In the event of trouble consult a doctor.
 After contact with the skin
 After contact, wash the skin with soap and water.
 In the event of continuing skin irritation consult a doctor.
 After contact with the eyes
 In case of contact with the eyes, wash with copious water for 15 minutes.
 Summon a doctor immediately.
 After swallowing
 Do not induce vomiting. Summon a doctor immediately.

SIKAFLEX[®]-291 SAFETY DATA SHEET

5. Measures for fire fighting

Suitable extinguishing media

Compatible with all extinguishing media in general use.

Special hazard from the product, its products of combustion or gases released

In case of fire the following can be released: Carbon monoxide (CO)

Carbon dioxide (CO₂)

Hydrogen chloride (HCl)

Oxides of nitrogen (NO_x)

Additional instructions

Combustion residues and contaminated extinguishing media must be disposed of in accordance with the local authority regulations. Collect contaminated extinguishing water separately, do not allow it to run into the drains.

6. Measures if inadvertently released

Personal precautions

Ensure sufficient ventilation.

Wear protective clothing.

Where vapours/dust/aerosols are present, wear a breathing mask.

Environmental protection measures

Do not allow to run into the drains or bodies of water.

In the event of penetration into water, ground or drains, inform the responsible authorities.

Procedure for cleaning/clearing up

Absorb with media that bind to liquids (e.g. sand, sawdust, universal binding media).

Dispose of the material that has been cleared up in accordance with the chapter on Disposal.

7. Handling and storage

Handling

Instructions for safe handling:

Refer to Chapter 8 / Personal protective equipment.

Instructions for fire and explosion prevention: Not applicable

Storage

Requirements for storerooms and containers:

Containers should be dry, kept tightly sealed and stored in a cool, well ventilated place.

Storage proximity instructions

Store separately from all kinds of foodstuffs.

Additional instructions for storage

Protect against frost.

Protect against heat and direct sunlight.

Protect against atmospheric humidity and water.

* 8. Exposure limitation and personal protective equipment

Components subject to monitoring of workplace concentration limits

Designation of the component

CAS no. Art

Reference/country/year

Naphtha (crude oil), hydro-desulphurised heavy

64742-82-1 Permissible workplace concentration 350 mg/m³ TRGS 900/DE/2004

64742-82-1 Permissible workplace concentration 70 ml/m³ TRGS 900/DE/2004

SIKAFLEX[®]-291 SAFETY DATA SHEET

4,4' methylene-diphenyl-diisocyanate

101-68-8	Permissible workplace concentration	0.05 mg/m ³	TRGS 900/DE/2004
101-68-8	Permissible workplace concentration	0.005 ml/m ³	TRGS 900/DE/2004

Xylol

1330-20-7	Permissible workplace concentration	440 mg/m ³	TRGS 900/DE/2004
1330-20-7	Permissible workplace concentration	100 ml/m ³	TRGS 900/DE/2004
1330-20-7	EU-TWA (8h)	221 mg/m ³	2000/39/EC
1330-20-7	EU-TWA (8h)	50 ml/m ³	2000/39/EC
1330-20-7	EU-STEL (15')	442 mg/m ³	2000/39/EC
1330-20-7	EU-STEL (15')	100 ml/m ³	2000/39/EC

Personal protective equipment

General protective and hygiene measures

Ensure sufficient ventilation at the workplace.

Avoid contact with the eyes and skin.

Apply prophylactic skin protection by protective hand cream.

Take off soiled clothing immediately.

Do not smoke, eat or drink when handling the product.

Before breaks and after completing work, wash hands well!

Breathing protection

When ventilation is poor: ABEK multi-range filter

The gas filter class is dependent on the local concentration of injurious substances.

Hand protection

Wear butyl rubber/nitrile rubber gloves

Eye protection

Safety glasses

Body protection

Work clothing

* 9. Physical and chemical characteristics

Appearance

Form:	pasty
Colour:	various, depends on the pigment
Smell:	characteristic

Safety-relevant data, methods

Flashpoint:	> 65 °C
Density at 20 °C:	approx. 1.26 g/cm ³
Solubility in water:	reacts with water
Viscosity at 20 °C:	not applicable
VOC (solvents):	3.47 %
VOC (CH):	3.47 %

10. Stability and reactivity

Substances to be avoided/hazardous reactions

No hazardous reactions if correctly stored and handled.

Thermal decomposition and hazardous products of decomposition

No decomposition if used correctly.

SIKAFLEX[®]-291 SAFETY DATA SHEET

11. Toxicology data

Sensitisation

Sensitisation/allergic reactions may occur.

Sensitised individuals may exhibit allergic reactions even at very low concentrations.

Experience of human exposure

On skin contact:	May lead to irritation
On eye contact:	May lead to irritation
On being breathed in:	May lead to irritation
On being swallowed:	May lead to health problems

12. Ecological data

Additional instructions

Do not allow to run into the drains, bodies of water or the ground.

13. Disposal instructions

Product

Recommendations

In accordance with the applicable waste labelling regulations, waste should be classified by its origin. Therefore a unique waste code number cannot be assigned.

Packaging

Recommendations

Packaging that is empty of residues should be sent for recycling. Packaging that contains residues

of hazardous substances or which is contaminated with hazardous substances, and any packaging

that is not empty of residues should be disposed of as the product, correctly and without creating pollution.

If the last contents makes it necessary, packaging that is empty of residues must be pre-treated for disposal (e.g. washed out, neutralised, cured, shaken out).

14. Transport data

ADR/RID

Further data

Not hazardous cargo.

IMO/IMDG

Marine pollutant: no

Further data

Not hazardous cargo.

IATA/ICAO

Further data

Not hazardous cargo.

15. Regulations

Identification in accordance with EC directives

The product should be classified and identified in accordance with EC directives/national statute law.

Component(s) to be labelled as hazardous content: 4,4' methylene-diphenyl-diisocyanate

Danger symbols

Xn Hazardous to health

SIKAFLEX[®]-291 SAFETY DATA SHEET

Risk phrases

42 Sensitisation possible by breathing in.

Safety phrases

23 Do not breathe in gas/smoke/vapour/aerosol.

45 In the event of accident or feeling unwell summon a doctor immediately (if possible show the doctor this label).

Special identification of particular components

Contains isocyanates. Follow the manufacturer's instructions.

National regulations

Water contamination class

WGK 1 (to VwVws of 17 May 1999)

GISCODE/PRODUCT CODE

GISCODE: PU 50

16. Other data

Markings (*) in the left margin indicate revisions from the previous version.

Intended purpose: Chemical product for building and industry

Risk phrases for the constituent substances listed in chapter 2

10 Flammable.

20 Hazardous to health if breathed in.

20/21 Hazardous to health if breathed in and if comes in contact with the skin.

36/37/38 Irritates the eyes, breathing organs and the skin.

38 Irritates the skin.

42/43 Sensitisation possible by breathing in and by contact with the skin.

51/53 Poisonous to water organisms, can have long-term polluting effects on bodies of water.

65 Hazardous to health: can cause damage to lungs if swallowed.

66 Repeated contact can lead to brittle or cracked skin.

67 Vapours can cause drowsiness and light-headedness.

The data in this safety data sheet represent our knowledge at the time of publication. They are not warranted as a complete list of characteristics. The only warranty extended is that expressed in the technical data sheets and the general conditions of sale. Consult the technical data sheet before use.

SIKAFLEX® 291 TECHNICAL DATA SHEET

Technical data sheet
Version 12/2005

Sikaflex®-291

The strongly bonding marine adhesive

Technical characteristics

Chemical basis	1-component polyurethane
Colour	white, black, natural wood
Curing mechanism	cures by absorbing moisture
Density before curing (DIN 53479)	approx. 1.3 kg/l, depending on colour
Stability	good
Processing temperature	+5°C - +40°C
Skin formation time ¹	60 min.
Through-curing speed	(see digiagram 1)
Volume change (DIN 52451)	approx. -5%
Shore A hardness (ISO 868 / DIN 53505)	approx. 40
Tensile strength (ISO 527 / DIN 53504)	1.8 N/mm ²
Elongation at break (ISO 527 / DIN 53504)	approx. 400%
Tear propagation resistance (ISO 34 / DIN 53515)	approx. 6 N/mm
Glass transition temperature (ISO 4663 / DIN 53445)	approx. -45°C
Operating temperature short-term	sustained 4 hours -40°C to +90°C 1 hour 160°C 180°C
Storage life (storage at less than 25°C in unopened containers)	12 months

¹⁾ 23°C / 50% r.Lf.

Description

Sikaflex® 291 is a stable 1-component polyurethane sealant developed for boatbuilding and shipbuilding. On exposure to atmospheric moisture it reacts to become an elastomer. Sikaflex® 291 satisfied the requirements of the International Maritime Organisation (IMO). Sikaflex® 291 is manufactured in accordance with the ISO 9001/14001 Quality Assurance System and the Responsible Care Programme.

Product advantages

- 1-component
- flexible
- low odour
- resistant to ageing and weather
- non-corrosive
- can be painted over
- can be sanded
- broad bonding spectrum
- electrically non-conductive
- resistant to seawater and hydrolysis

Application Range

Sikaflex® 291 is a versatile product for use in boatbuilding and shipbuilding to make flexible and vibration-resistant seals in internal and external areas. Sikaflex® 291 has strong bonding properties to the principal materials used in shipbuilding. Suitable substrates include wood, metals, primers and paint finishes (2-component system), ceramic materials, plastics (UP-GFK etc.). Sikaflex® 291 should not be used for sealing plastics that are subject to stress cracking (such as PMMA, PC etc.).

For timber decking we recommend Sikaflex® 290 DC. In the cured condition, Sikaflex® 291 can be sanded without problems.

Curing mechanism

Industry



SIKAFLEX® 291 TECHNICAL DATA SHEET

The cross-linking reaction of Sikaflex® 291 occurs in the presence of atmospheric moisture. At lower temperatures the water content of the air is less and the cross-linking reaction proceeds somewhat more slowly (see diagram).

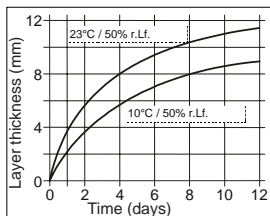


Diagram 1: Through curing speed of Sikaflex® 291

Chemical Stability

Sikaflex® 291 is resistant to fresh water and salt water, hard water and effluent from public drains including aqueous surfactants, dilute alkalis and acids; short-term resistant to fuels, mineral oils including vegetable and animal oils and greases, not resistant to organic acids, alcohol, stronger mineral acids and alkalis or solvents. This information is intended only as a general indication. Advice for specific applications is available on request.

Processing instructions

Substrate preparation

The surfaces to be bonded must be clean, dry, and free of dust and grease. Data on preparation of materials surfaces can be found in the primer table for Sikaflex® marine systems.

Processing

Break the cartridge membrane and fully open it. Insert the bag into the application gun and cut off the clip. Cut off the tip of the nozzle to suit the crack to be filled, and apply the sealant with a suitable manual, battery-powered or compressed air piston gun into the crack, leaving no air bubbles. Opened containers must be used up within a few days. The processing temperature must not be below 5°C or above 40°C. The optimum temperature both material and sealant is between 15°C and 25°C.

For advice on selection and arrangement of a suitable pump system, please contact the System Engineering Department at Sika Industry.

Smoothing off

Smoothing off must be performed within the skin formation time of the adhesive. We recommend Sika® N smoothing off agent. Other smoothing off agents should be checked for suitability before use.

Removal

Uncured Sikaflex® 291 can be removed from equipment and tools with Sika® Remover 208. Cured material can only be removed mechanically. Hands/skin should be cleaned immediately with Sika® Handclean or a suitable hand cleansing paste and water. Do not use solvents!

Painting over

After the skin has formed, Sikaflex® 291 can be painted over. The suitability for painting over must be trialled prior to application. Powder coating points may be applied only to fully cured Sikaflex® 291. It should be borne in mind that the hardness and film thickness of the paint finish may affect the expansion of the plastic and lead to cracking.

Additional information

The following documents are available on request:

- Safety data sheet
- Primer table for Sika marine systems
- General guidelines for working with Sikaflex® adhesives and sealants
- Marine handbook

Containers

Tube	100 ml
Cartridge	310 ml
Bag	400 ml

Important

When handling our products, please read the material-specific safety data sheets for their essential physical, safety, toxicological and ecological data. The applicable regulations, such as the hazardous substances regulations should be complied with. On request we will send you our system data sheet TM 7510 „Instructions for protection at work“ for handling Sika Deutschland GmbH products.

Note:

The details above, especially the suggestions for the processing and use of our products are based on our knowledge and experience in normal cases, providing the products are correctly stored and applied. Due to the variety of materials, surfaces and variations in working conditions, no guarantee of a work product or liability from any legal relationship can be founded on these instructions or on oral advice unless we are charged with premeditated or gross negligence. Here the user must prove that he brought to Sika's attention promptly, completely and in writing all knowledge necessary for Sika to make an objective assessment of expectation of success. It is the user's responsibility to check the products for suitability for the intended application. We reserve the right to change the product specifications. The trademark rights of third parties must be respected. In all other respects our respective sales and delivery conditions apply. The latest version of the technical data sheet is applicable and should be requested from us.

Additional information
Internet: www.sika-industry.de, e-mail: industry@de.sika.com
www.sika.com

Sika Deutschland GmbH
Klebe- und Dichtstoffe Industrie
Stuttgarter Strasse 139
D-72574 Bad Urach
Germany
Tel. +49 7125 940-761
Fax +49 7125 940-763



Sikaflex® 291 2 / 2

The operating manual for the

CAP 900

starts on this page

If, despite studying this operating manual, you still have questions about getting started with the unit or using it correctly, or if unexpected problems occur, please contact your specialist dealer.



The automatic updating of the EPG data described in the UFS 740sw operating manual as occurring at 03:00 in the morning is not performed automatically when the UFS 740sw is being operated on the CAP 900! The EPG data are updated when an individual channel is viewed. At this point however the receiver updates all EPG data for the channels that are broadcast from the currently selected receiving transponder. Example: You have selected the channel „SAT.1“. At this point for instance the EPG data will be updated for „ProSieben“ and „KABEL1“.

IMPORTANT INFORMATION FOR CAP 900 BEFORE SETUP

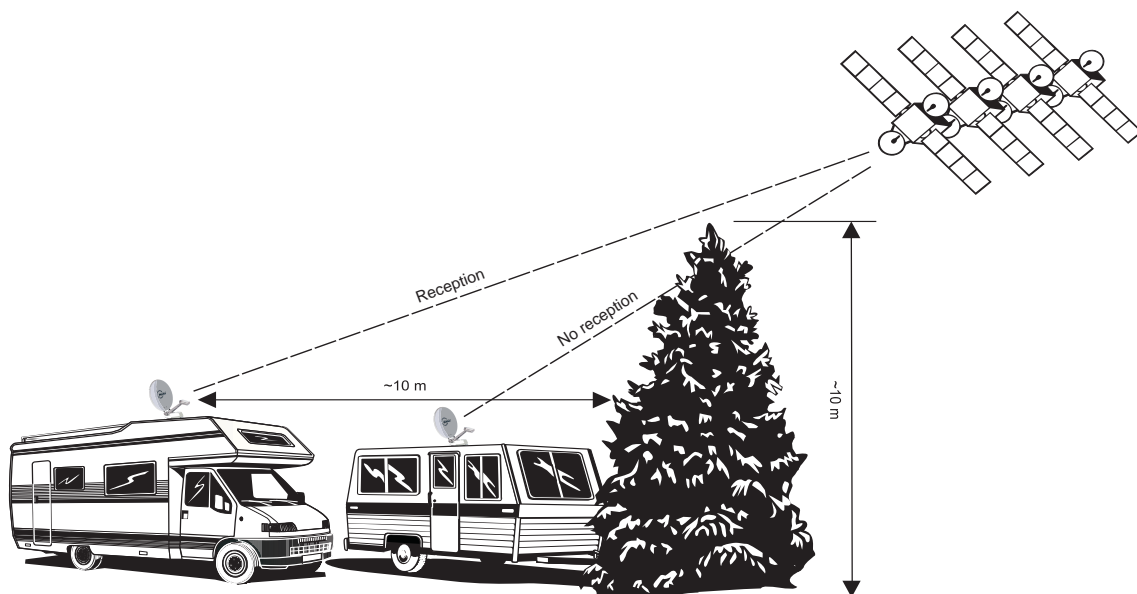


This section of the UFS 170 operating manual for the turntable assumes that the UFS 170 and the turntable have been properly installed and connected, as described in the installation and operating manuals!

If you have not yet done so, read the safety instructions at the beginning of the UFS 740sw operating manual and follow them when handling the UFS 740sw and the turntable!



Before setting up your satellite system, make sure that the location allows a free view to the satellite positions to the South and is not shadowed by trees or other obstructions. This will save you time and effort!



REMOTE CONTROL

All settings on the UFS 740 are made using the remote!

FIRST INSTALLATION

Before using your unit for the first time, read the “Safety Instructions – Important Information” and “Installation and Connection” sections.

In the “Installation and Connection” section you will find a sample configuration (one for a motor home and one for a caravan).



Do not connect the unit to the power supply until all installation work has been properly carried out.

The guidance given in the “First Installation” section assumes that the receiver has been properly connected, as per the “Safety Instructions – Important Information” and “Installation and Connection” sections.

First switch your TV set on and select the AV channel slot. Switch on your receiver at the power switch on the front of the unit. The following display appears:



Also pay attention to the bars at the bottom of the on-screen display! This provides hints on what to do next.

Select the menu language you want using the buttons. Available options: German, English, French, Italian, Spanish, Czech, Dutch and Turkish.

Press (green) to move to the next menu.

Note: If you are unsure whether you chose the right option from a previous menu, you can go back a step at any time during the first installation process by pressing the (red) button.

FIRST INSTALLATION

The following display appears:



Use the buttons here to select the settings for your TV set.

When doing this, refer to the operating instructions for your TV set!

TV format

Select the TV's picture format. Either

4:3 or
16:9

Screen display

Here you select the type of screen display, depending on the setting of your TV format:

- TV format "4:3": Pan & Scan or Letterbox
- TV format "16:9": Always 16:9 or automatic

TV Scart signal output

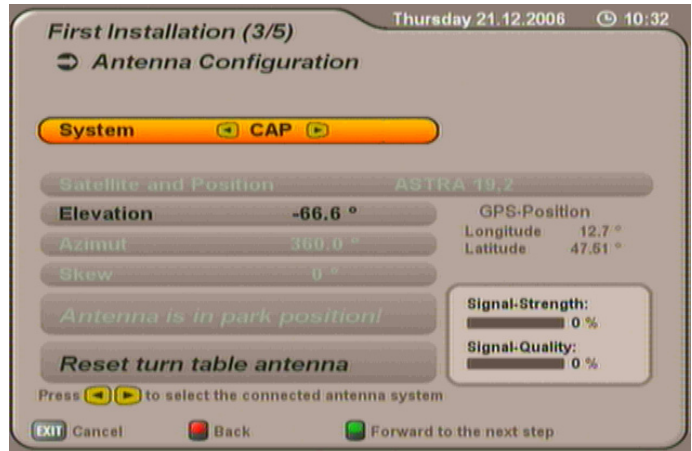
Select the type of video signal at the TV Scart socket here. Select the signal that your TV set can process.

- CVBS – Colour Video Baseband Signal
- RGB – Red/Green/Blue signal or
- Y/C – S-Video signal (luminance/chrominance)

Press the (green) button to move to the next menu.

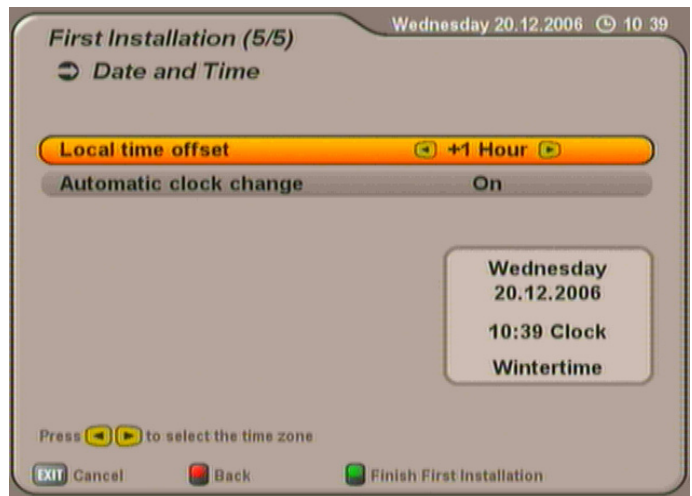
FIRST INSTALLATION

The following display appears:



System

Use the buttons at "System" to select "CAP 900". Then press the (green) button (channel scan "item 4/5" is skipped). The following display appears:



Set Local Time

Use the buttons to set the time zone variation from UTC (formerly GMT) (e.g. for Germany +1 hour).

Use the buttons to switch to the "Automatic clock change" field. Use the buttons to select whether the receiver should automatically change over to and from summer and winter time. If "On" is selected, the receiver automatically sets itself to the right time. If "Off" is selected, the field for manual selection of summer and winter time is displayed below. Use the buttons to perform the setting.

Press the (green) button to close first installation and return to the main menu. Press the button to view the TV picture.

ALIGNMENT (SATELLITE SEARCH)

The antenna is aligned automatically. After the UFS 740 has been switched on, the turntable automatically moves to the last channel received and the associated satellite position (e.g. ARD/ASTRA).

This works because every satellite broadcasts its own identification signal, which is automatically identified by the turntable.

The satellite search is started when you select a channel. If the turntable has not yet saved the position of the satellite, you will see the following display when you select a channel (example):



If the vehicle is not on supports during the search process and people are moving around inside it, there is a risk that movement of the vehicle will mean that the satellite is not found.



Start Search?

**Position of 'Astra 19,2' is unknown.
Start search?**

EXIT No

OK Yes

Press the **OK** button to start scan mode.

The scan may take a few minutes (generally about four minutes). You will first see the following message:



Please Wait

'Astra 19,2' search started...

EXIT Cancel

As soon as the turntable has found the correct satellite, automatic fine-tuning is carried out (and if the signal level is sufficient, the satellite position is immediately saved by the turntable). The screen may "freeze" during fine-tuning - this is determined by the system.

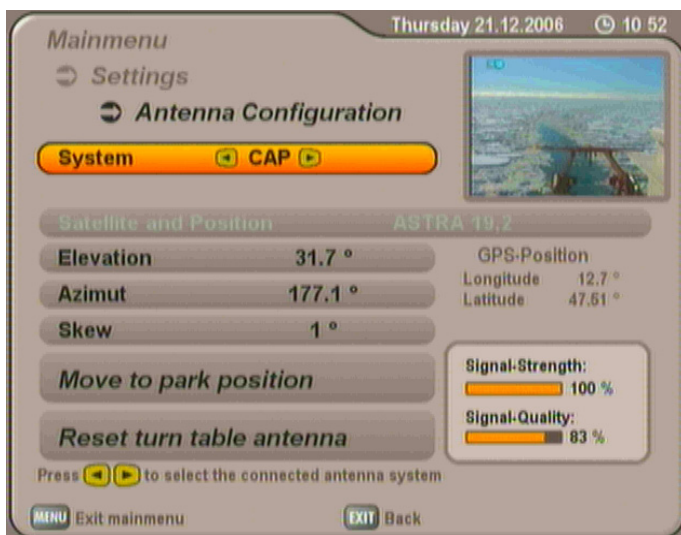
The set position (of the satellite that was found) is saved and the desired channel appears on the TV screen.

ALIGNMENT (SATELLITE SEARCH)

MANUAL CORRECTION

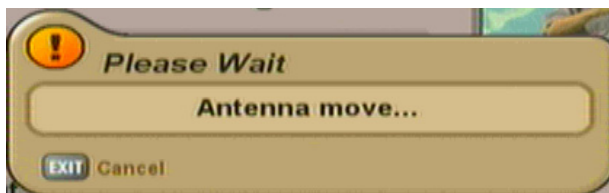
At the margins of the footprints of a satellite (e.g. after a slight change of position), it may be necessary for you to manually correct the setting (not normally required). It is also possible to manually correct the fine tuning.

Press the **MENU** button to switch to the main menu. The **▲▼** buttons and **OK** button allow you to call up the submenus ("Settings", "Antenna Configuration").



You can correct the inclination and horizontal angle of the antenna, and also the inclination angle of the LNB using the "Elevation", "Azimuth" and "Skew" settings. To do this press the **◀▶** buttons or enter a number using the numeric pad and confirm with the **OK** button. Check your settings by referring to the "Signal-Strength" and "Signal-Quality" bars on the right-hand side. The higher the bar, the stronger and better quality the signal received.



The new co-ordinates are not assigned to the satellite until you have saved the satellite position when exiting the "Antenna Configuration" menu!



When you have performed the correction, press the **EXIT** button to exit the menu. You will be asked whether you wish to save the changes.

Press one of the **▲▼** buttons ("Yes, save the changes" or "No, don't save the changes") and confirm by pressing the **OK** button.

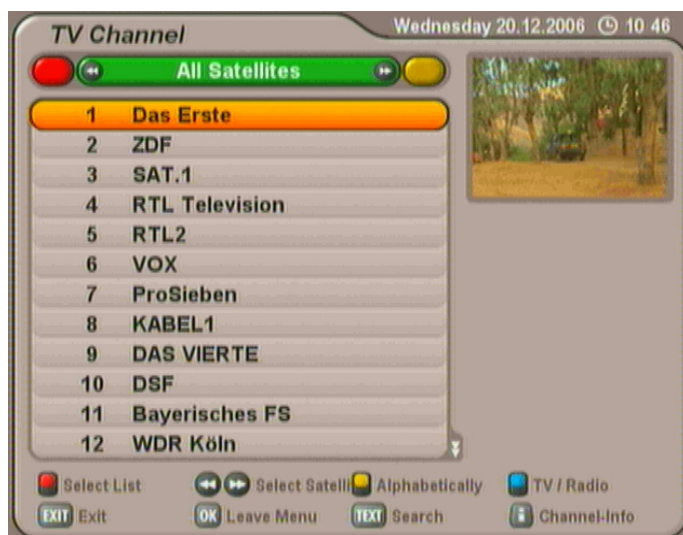
CHANNEL (SATELLITE) SELECTION

By pressing the  buttons all channels can be selected in the sequence that they appear in the current channel list and its sorting. Press the  (blue) button to switch between TV and radio channels.

CHANNEL SELECTION FROM THE CHANNEL LIST

Providing you are not in a menu, pressing the  button calls up the channel list. The following display appears:








Also pay attention to the bars at the bottom of the on-screen display! This provides hints on what to do next.



Calling this up displays the channel selection/sorting list from which you selected the last channel. At the top right you will see the selected channel list (TV or radio channels) displayed.

Press the  (blue) button to switch between the TV and radio channel lists.

To the right of it you see the current channel list sort order as selected by you. The channel list can show channels sorted by various selection and sorting criteria.

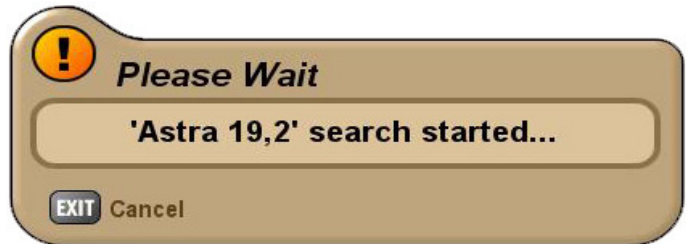
The cursor buttons (, , , ) are used to navigate within the respective channel list view to select the desired channel. The selection of the desired channel is confirmed by pressing the  button. As soon as the turntable has found the satellite or has reached the known position, you will now hear and view the currently selected channel in the small window at the top right. To exit the channel list and return to the TV picture, press the  button again, or press the  button.

Note: *A comprehensive explanation of the channel list with its detailed functions (e.g. the scan and sort function) can be found in the UFS 740sw operating manual.*

CHANGE OF LOCATION / TIMER PROGRAMMING


After a change of location, the antenna moves to the last position selected. After initialisation, you will therefore see the following display (example, as it depends on the last selected position):

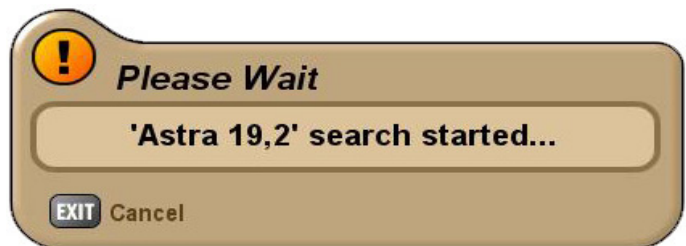
For slight changes of location, the antenna can find the satellite very quickly.



If no signal is found at the last position, the following message appears:



If you still want to aim at the satellite, press the  button to start the search.



If a signal is found, the antenna automatically goes into fine tuning mode (max. 90 seconds, if signal is adequate the position is immediately saved).

TIMER PROGRAMMING

See the UFS 740sw operating manual for details of how to program the timer. When using the UFS 740sw on a CAP 900 please note the following additional instruction:

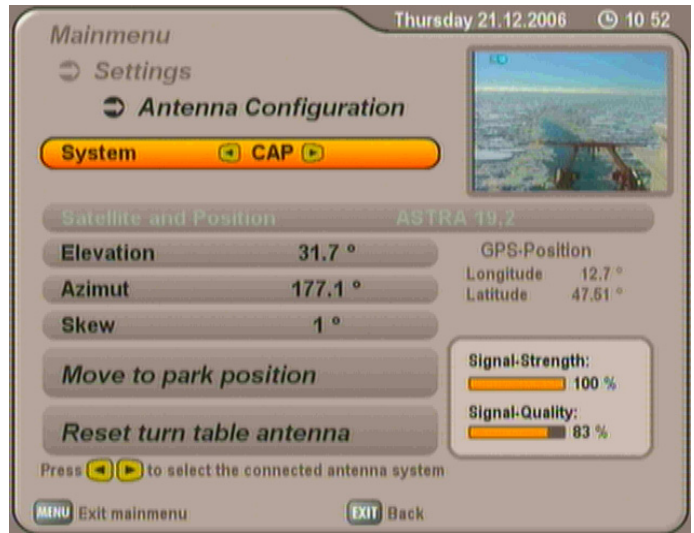


To prevent the turntable rotating at a time when it is unsupervised or when rotation might be irritating (e.g. in the middle of the night), a timer can be set. During the timer period the turntable is active only if the UFS 740sw is in operation or is in standby mode. If the receiver is completely switched off (switched off at the power socket) and/or the turntable is in park position, the turntable will be inactive during the timer period! The same applies if during the first movement the satellite position is not found.

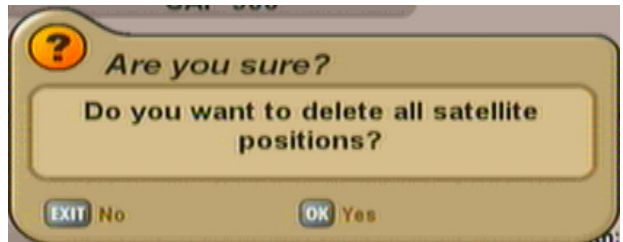
RESET/PARKING

RESETTING THE MOTORISED ANTENNA

Press the **MENU** button to switch to the main menu. The **▲▼** buttons and **OK** button allow you to call up the submenus ("Settings", "Antenna Configuration").



Use the **▲▼** buttons to navigate to the sub-item "Reset turntable antenna" and now press the **OK** button. The following display appears:











Press the **OK** button to confirm the displayed message. The antenna is reset and automatically moves to park position. A further short message "Park position reached" appears. Press the **EXIT** button to exit the menu again.

Note: Before exchanging any component of the system (such as the receiver) the turntable should be moved to its park position by means of the "Reset the motorised antenna" command. After the "Reset", all previously saved satellite positions in the turntable are deleted. The satellite data in the receiver component of the UFS 740 are however retained.

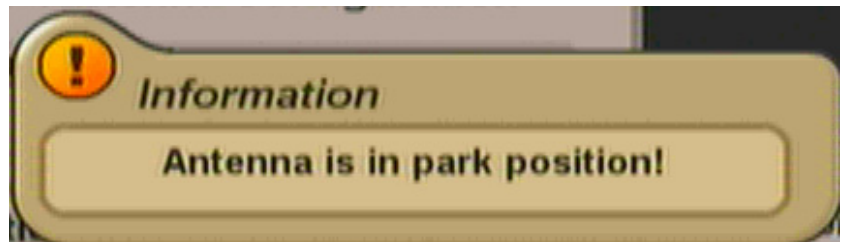
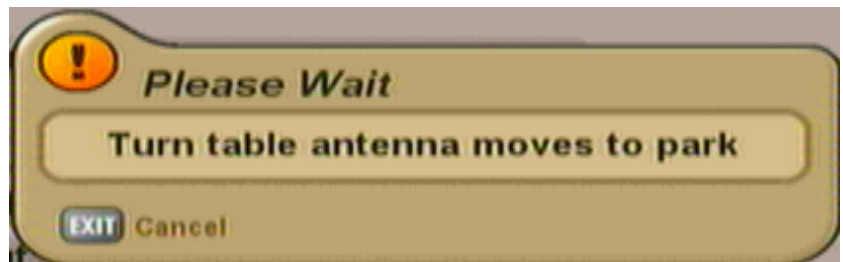
RESET/PARKING

PARKING THE TURNTABLE

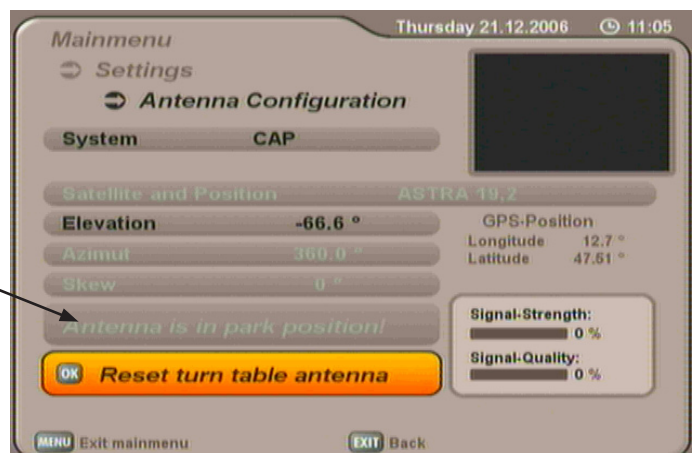
You have three options for “parking” the antenna.

1. The antenna can be moved to park position by pressing the  button twice.
2. Press the  button to switch to the main menu. The   buttons and  button allow you to call up the submenus (“Settings”, “Antenna Configuration”). Use the   buttons to navigate to the sub-item “Move to park position”. Now press the  button to park the antenna.
3. When the ignition is operated, the antenna automatically moves to the park position! However, for this to happen the green wire of the power supply cable must be connected to the ignition (see “Connection Diagram”). Refer to the detailed instructions for this in the CAP unit installation guide.

The antenna is moved to park position, and this is then confirmed.



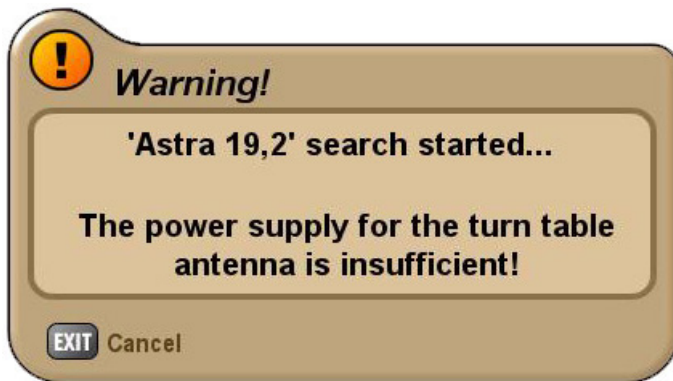
The Antenna Configuration menu allows you to check whether the antenna truly is in the park position.



SPECIAL MESSAGES FROM THE TURNTABLE

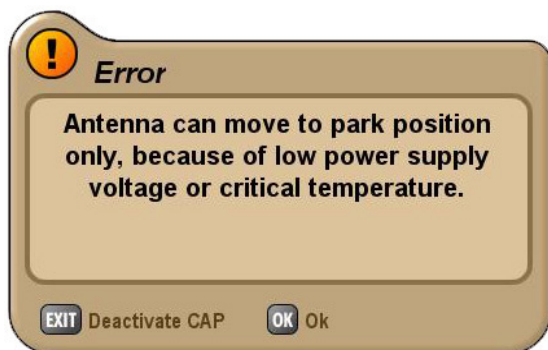
SYSTEM PROTECTION MESSAGES

The following messages are shown on the screen to protect your reception system and the on-board power supply:



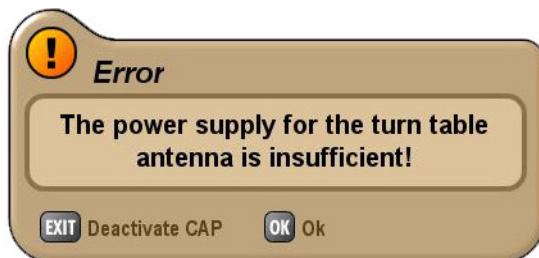
The power supply to the turntable is insufficient (battery voltage below minimum value). The turntable can still be moved, but communication errors can occur between the UFS 740sw and the turntable (e.g. when scanning for satellites).

If the voltage falls still further, both the following error messages are displayed:



Check the power supply to the turntable and whether it is obstructed (e.g. by a branch). If both causes of faults are displayed, the turntable motor temperature is in the critical range. Allow the turntable to stand for a few minutes in its current position, until the turntable motor temperature has reduced. You can also however move the turntable to the park position and let it cool down there.

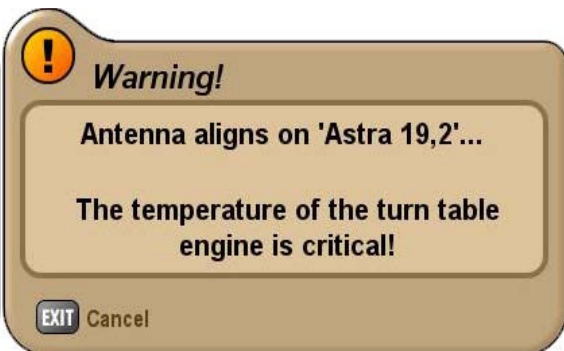
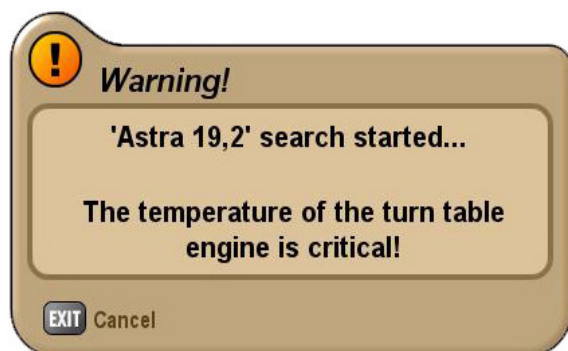
Press the **OK** button and the turntable will move to the park position.



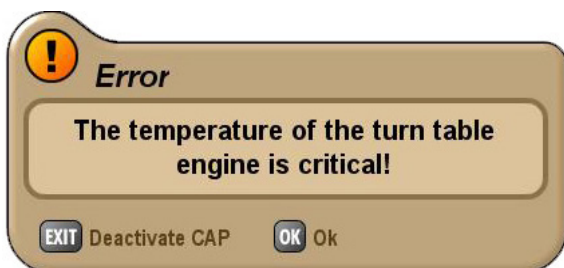
Press the **OK** button to confirm the displayed message. The turntable cannot be moved any more. Check the power supply to the turntable.

Note: *The antenna should not be moved whilst the battery is being recharged, to prevent peak loads when turning on.*

SPECIAL MESSAGES FROM THE TURNTABLE

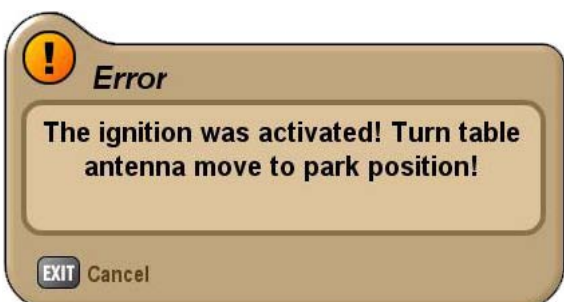


The turntable motor temperature is in the critical range. The controls can move the turntable only to a known satellite position or to the park position. In addition you receive the message "Last Move done" (to allow the turntable motor the opportunity to cool down, no movements of the turntable are permitted for a few minutes).



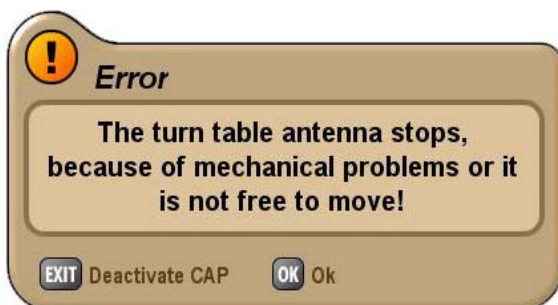
The turntable motor temperature is in the critical range. The controls permit no further movements of the turntable motor. You must allow the turntable motor to cool down before you can use it again. Now press the

OK button and wait a few minutes before using the turntable again.



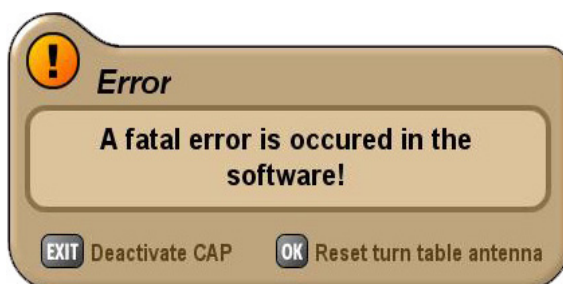
The vehicle ignition was switched on. For safety reasons, the turntable moves into the park position. This operates however only if the green ignition cable for the turntable is connected to the vehicle ignition!

SPECIAL MESSAGES FROM THE TURNTABLE



The motorised antenna has reached the mechanical stop or is jammed! Check whether the turntable is obstructed (e.g. by a branch).

MESSAGES ARISING FROM SOFTWARE PROBLEMS



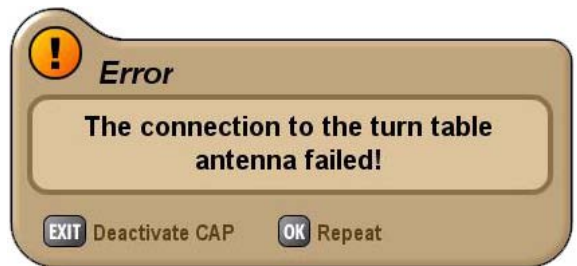
A serious software error has occurred. Reset the turntable in the CAP menu, or contact our service centre.



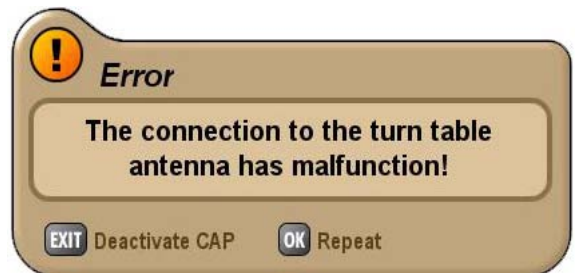
The motorised antenna software is defective. An update is required. Contact our service centre.

SPECIAL MESSAGES FROM THE TURNTABLE

FURTHER MESSAGES



The receiver has lost communication with the turntable. Check the connection between the UFS 740sw and the turntable. The two components must be connected to each other using the master cable (marked red).



The connection to the turntable is defective. Reset the turntable in the CAP menu, check the connections between the turntable and receiver, or contact our service centre.



This satellite is inaccessible from this GPS position! Change to another satellite or change the location of your motor home or caravan.

DECLARATION OF CONFORMITY



EC Declaration of Conformity

Manufacturer: **Kathrein-Werke KG**

Address: **Postfach 10 04 44
83004 Rosenheim**

Product designation: **Sat-Paket MobiSet 4**

Type designation: **CAP 900**

Relevant article no.: **20310012**

Kathrein-Werke KG hereby declares that the designated product complies with the directives of the Council of the European Union for harmonising the statutory regulations of the member states.

- 1) Electromagnetic compatibility (89/336/EC dated 3rd May 1989)
The following standards have been satisfied:

EN 55013: 2001 + A1: 2003,
EN 55020: 2002 + A1: 2003 + A2: 2005

- 2) Machines (98/37/EU dated 22nd June 1998)
The following standards have been satisfied:

EN ISO 12100-1: 2003, EN ISO 12100-2: 2003,
EN 294: 1992, EN 349: 1993

Any restrictions on the use of the product should be observed. See the respective instructions for proper use.

Development, production, quality assurance and sales are based on the EN ISO 9001 standard, certificate register no. Q1 99 10 11297 015 for Kathrein-Werke KG dated 17.01.2000, issued by TÜV PRODUCT SERVICE GMBH.

Place, date: **Rosenheim, 06.12.2006**

Legally binding signature: